

SEGOV, V.; LIVSHIT, I.; KOROLEVA, G.

State of the coagulation and anticoagulation system in the
ovulation-menstrual cycle. Krohl. genet. i perel. krovi 9
no.2:15-18 Ag 1961. (MIPB 18:3)

A. Paradra normalnoj fiziolom (zav. - doksent S.I. Kuznik)
Chitinskogo meditsinskogo instituta.

SKIPETROV, V. P.

Early diagnosis of Urov's (Kaschin*Beck) disease. Klin. med.
no.8:68-71 '61. (MIRA 15:4)

1. Iz kafedry normal'noy fiziologii (zav. - prof. I. D. Boyenko)
Chitinskogo meditsinskogo instituta i klinicheskogo otdeleniya
(zav. V. S. Sidorov) Urovskoy nauchno-issledovatel'skoy stantsii.

(ARTHRITIS, RHEUMATOID)

SKIPETROV, V. P.

State of hematopoiesis in Urov (Kaschin-Beck) disease in light
of the theory of adaptation. Probl. gemat. i perel. krovi no.4:
25-29 '62. (MIRA 15:4)

1. Iz kafedry normal'noy fiziologii (zav. - prof. I. D. Boyenko)
Chitinskogo meditsinskogo instituta (dir. Yu. D. Ryzhkov) i
klinicheskogo otdeleniya (i. o. zav. V. S. Sidorov) Urovskoy
nauchno-issledovatel'skoy stantsii.

(ARTHRITIS, RHEUMATOID)
(HEMOPOIETIC SYSTEM)

10771* Class Insulation and Its Use in Electric Machine Building. Stekloamal'ia izolatsii i ee prilomenie v elektronashinostroenii. (Russian.) V. V. Skripetrov. Promyshlennaya Energetika, 1958, no. 5, May 1958, p. 8-14.
General data on various applications of glass fiber in the insulation-materials industry. A wide range of applications is covered. Tables.

Wards
Elle Pg
Engg D
RIM JFM

2

SKIPETROV, V.V., Cand.technical Sc., AL'BITSKAYA, O.N., 105-7-14/29
Cand. agr. Sc.,
AUTHOR
TITLE Electric Insulation in the Humid Tropics.
(Elektricheskaya izolyatsiya v usloviyakh vlaghnikh tropik:v-Russian)
PERIODICAL Elektrichestvo, 1957, Nr 7, pp 62 - 67 (U.S.S.R.)
ABSTRACT Special technical materials for the production of electric outfits to be used in tropic climates were worked out by the Ministry of Electric Industry of the U.S.S.R. as a result of the considerations mentioned in this paper. The following materials are to be used: electric insulating material on the basis of alkali free fibers, mica and in some cases of an asbestos fiber in connection with heat-and moisture-resistant resins and varnishes, pressed materials with anorganic fillers, and ceramic materials. The use of cotton- and silk materials is not recommended nor is that of materials based on them, such as paper, cardboard, fiber-pressed materials with wood- and cellulose fillers, layer plastics on a cotton- or paper basis, and wood with the exception of those cases where these materials are intended to be used in oil. For the soaking of the windings of electric motors with the insulation of the A and B type the use of oil-bitumen and melaminoglyptal varnishes and for those with the CH type insulation the use of silicon-organic varnishes is recommended. Oilglyptal and modified silicon organic furnace dried enamels are recommended for enamel coatings of the windings of motors. In the case of varnishes and enamels for coating motors fungicide-compounds are recom-
Card 1/2

Electric Insulation in the Humid Tropics. 105-7-14/29
mended. The authors suggest providing the windings with a spun-glass
insulation.
(1 illustration and 3 Slavic references).

ASSOCIATION "Lenin" All-Union Institute for Electro-Technics (Vsesoyuznyy
elektrotekhnicheskiy institut im. Lenina)
PRESENTED BY
SUBMITTED 10.41957
AVAILABLE Library of Congress.
Card 2/2

S/112/60/000/006/001/032

Translation from: Referativnyy zhurnal, Elektrotehnika, 1960, No. 6, p. 12,
1.1516

AUTHORS: Limova, I. G., Skipetrov, V. V.

TITLE: The "AF-17" (AF-17) Thermosetting Impregnating Varnish

PERIODICAL: V sb.: Izolzatsiya elektr. mashin, Vol. 2, Moscow, 1958, pp. 70-76

TEXT: The AF-17 thermosetting alkyd phenol varnish has been tested. The varnish is based on polyester copolymer on the base of phthalic anhydride, modified with castor oil, and butylkneaded phenol-formaldehyde resin 101 (polyester : resin = 100 : 30). A 9:1 mixture of xylene and butanol is solvent and xylene is diluent. Physico-chemical and dielectric characteristics of AF-17 meet the requirements applicable to insulating impregnating varnishes. In respect to drying in a thick layer and cementing properties, AF-17 is superior to "447" and "MFM-16" (MGM-16) varnishes. AF-17 varnish has been used when developing a new insulation for windings of the traction motor "ДК-103" (DK-103) and for impregnating other electric machines. The technology of drying is described. AF-17 varnish can be recommended for impregnating windings of electrical machines and equipment with class A and B insulation operating under heavy duty conditions. (VEI)

Card 1/1

B. F. S.

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SKIPETROV, V.V.; BREYTMAN, B.M., red.

[Use of class-F insulation in electrical machines] Pri-
menenie izoliatsii klassa F v elektricheskikh mashinakh.
Moskva, Tsentral'nyi nauchno-tehnicheskiy informatsii priboro-
stroeniiia, elektro-tehnicheskii promyschl. i sredstv avtomati-
za sii, 1962. 18 p. (MIRA 17:8)

1. Russiya (1923- U.S.S.R.) Gosudarstvennyy komitet po av-
tomatizatsii i mashinostroyeniyu.

PHASE I BOOK EXPLOITATION

SOV/6118

Andrianov, Kuz'ma Andrianovich, and Vladimir Vladimirovich Skipetrov

Sinteticheskiye zhidkiye dielektriки (Synthetic Liquid Dielectrics). Moscow,
Gosenergoizdat, 1962. 175 p. (Series: Polimery v elektroizolyatsionnoy
tekhnike, vyp. 4) 8500 copies printed.

Editorial Board: K. A. Andrianov, Chief Ed.; K. I. Zabyrina, V. I. Kalitvyan-
skiy, Yu. V. Koritskiy, A. V. Khval'kovskiy, and L. A. Epshteyn; Ed.: S. V.
Shishkin; Tech. Ed.: V. V. Yemzhin.

PURPOSE: This book is intended for electrical insulation specialists, particularly
technical personnel in plants and scientific research institutes.

COVERAGE: The book reviews synthetic dielectric fluids which are of interest in
electrical and radio engineering. Such dielectric fluids are those possessing
good electrical characteristics stable over a wide temperature range,
viscosity, and resistance to electric fields and high temperatures. The

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Synthetic Liquid Dielectrics

SOV/6118

physicochemical and electrical characteristics of Soviet and non-Soviet dielectric fluids (e.g., silicone oils) are discussed, and some data relating to the methods of their production are given. Considerable attention has been directed toward the problem of synthesizing fluorinated hydrocarbons (organic esters and many esters of dibasic acids and aliphatic alcohols), which are potential dielectric fluids. There are 85 references: 20 Soviet, 49 English, 3 French, and 12 German. No personalities are mentioned.

TABLE OF CONTENTS [Abridged]:

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Ch. I. Synthetic Oils From Polymerization Products of Unsaturated Hydrocarbons	5
Ch. II. Liquid Chlorinated Hydrocarbons	13
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S/3032/63/000/071/0013/0026

ACCESSION NR: A74001515

AUTHORS: Andrianov, K. A.; Skripetrov, V. V.; Kalyakina, A. N.

TITLE: Investigation of incombustible liquids for flooding transformers

SOURCE: Moscow. Vses. elektrotekhn. institut. Trudy*, no. 71, 1963, 13-26

TOPIC TAGS: transformer, transformer oil, transformer fluid, noncombustible transformer fluid, nonflammable transformer fluid, low freezing point transformer fluid, SOVTOL 2, pentachlorodiphenyl, incombustible, incombustible fluid, non-combustible, noncombustible fluid, power transformer, power transformer oil, synthetic oil, diphenylpentachloro-, benzene, trichloro-, trichlorobenzene

ABSTRACT: Studies were carried out on the nonflammable transformer fluids, SOVTOL 2 and SOVTOL 10. SOVTOL 2, containing 64% pentachlorodiphenyl and 36% trichlorobenzene, has a viscosity similar to that of transformer oil and a freezing point of -42°C which makes it suitable for use at low temperatures. SOVTOL 10 (10% trichlorobenzene, 90% pentachlorodiphenyl), with a freezing point of -7°C, is suitable in cases in which the surrounding temperature remains above +10°C and, because of its high viscosity, is less sensitive to contamination but still capable of heat exchange by convection. Table I of the Enclosure shows the physical, chemical, and dielectric properties of these 2 transformer fluids

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ACCESSION NR: AT4001515

compared with similar ones produced in Western Europe. The authors recommend that the trichlorobenzene be distilled under atmospheric pressure (210-220C boiling range) in the presence of glinykil and be protected from light. Tin tetraphenyl (0.1% by weight) as a stabilizer for SOVTOL 10 did not reduce this product's sensitivity to UV radiation, as seen by increases occurring in tg delta and the acid number. The stabilizer had no effect on the bursting strength of cable insulating paper kept in SOVTOL 10 for periods up to 60 days nor on the number of double twists in the fibers. Table 2 of the Enclosure shows the changes in the viscosity of SOVTOL 10 when heated to 90 and 120C for 90 and 120 days in tubes and sealed ampules. A study of the effect of various plastic-coated materials on SOVTOL 10 showed that, except for AF-17 and FL-98 resins, none of the materials studied had a deleterious effect on the dielectric properties of the fluid. Table 8 in the original shows the effect of various materials on the tg delta of SOVTOL 10. When SOVTOL 10 was tested in a TNZ transformer (rated voltage 10 kv, output 1000 kva) for 14-895 day periods, there were no appreciable changes in the breakdown voltage, viscosity and acid number of the fluid, but a marked decrease in tg delta.

ASSOCIATION: Vses. elektrotekhn. institut (All-Union Institute of Electro-technology)

Card 2/6

24(2)

AUTHORS: Rumanova, I. M., Skipetrova, T. I. SOV/20-124-2-23/71

TITLE: The Crystal Structure of Lawsonite (Kristallicheskaya struk-tura lavsonita)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 2, pp 324-327
(USSR)

ABSTRACT: Various circumstances, and especially the insufficient accuracy of data hitherto available made a renewed determination of Lawsonite structure appear desirable. By means of MoK α -radiation the authors took the X-ray pictures of the rotation round the rhombic parameters a, b, and c as well as of the arrangement of the layer lines of the rotation round $b(0,1,2)$ and $a(0)$; the intensities of the reflections on them was visually estimated by the method of density marking. The parameters of the elementary cell thus found agree well with earlier results (Refs 1,2): $a = 8.83 \text{ \AA}$; $b = 5.80 \text{ \AA}$; $c = 13.20 \text{ \AA}$. The 3 rhombic space groups Ccm2, Cc2m, and Cemm are possible. No piezo-effect was, by the way, found. On the X-ray pictures of rotation round the 3 axes a, b, and c the intensities of the odd layer lines are noticeably weaker than the even ones. Further structural analysis was carried

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The Crystal Structure of Lawsonite

SOV/20-124-2-23/71

out by the statistical method by W. H. Zachariasen (Ref 4). The coordinates found for the basic atoms of Lawsonite structure are given in a table. A schematical drawing shows the projection of Lawsonite structure on to the xz-plane in the coordination polyhedra. The principal architectural motives are the infinite columns on Al-octahedra, which extend in form of double helical lines parallel to b. Each Al-atom occupies the center of an oxygen octahedron. The cavities between the Al-octahedra and diortho-groups are taken up by large Ca-cations round which somewhat distorted O(H₂O)-octahedra then form. The latter are connected with one another by neighboring Al-columns. This structure is a good explanation of cleavability in Lawsonite. It is complete along (001) and less complete along (100)(cf. Fig 2). The authors thank Academician N. V. Belov for his valuable advice and R. G. Matveyeva for determining the layer-lines of the rotation round b. There are 2 figures, 1 table, and 6 references, 2 of which are Soviet.

Card 2/3

SOV/20-124-2-23/71

The Crystal Structure of Lawsonite

ASSOCIATION: Institut kristallografii Akademii nauk SSSR (Institute for
Crystallography of the Academy of Sciences, USSR)

PRESENTED: July 24, 1958, by N. V. Belov, Academician

SUBMITTED: July 21, 1958

Card 3/3

15-1957-3-2571
15-1957-3-2571

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3, p 2 (USSR)

AUTHOR: Skipichenko, M. F.

TITLE: Vasiliy Nikolayevich Golovtsyn (On the Fiftieth Anniversary of his Birth)
(Vasiliy Nikolayevich Golovtsyn (K 50-letiyu so dnya rozhdeniya))

PERIODICAL: Nauk. zap. Kyivs'k. un-t, 1956, vol 15, Nr 2, pp 183-184

ABSTRACT: V. N. Golovtsyn, professor at Kiyev University, was known for his work in the field of development of geophysical methods of exploration and prospecting for mineral resources in the Urals, Siberia, Moldavia, Crimea, and other regions of the USSR.

Card 1/1

The refining of castor oil. Skripin and M. Slobodova.
Maslobojno-Zhrome Data 10, No. 11, 27-9 (1934); Chem.
Zentr. 1935, II, 1277.

M. G. Minott

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AMERICAN METALLURGICAL LITERATURE CLASSIFICATION

CLASSIFICATION
BY SUBJECT

PROCESS AND PROPERTIES OF

A new method for obtaining vegetable oils. A. I. Skripin. *Vesnina Nach Industrii Zhizni*. Sep. 1935, 40 pp. - The Skripin method (roasting and extr.) is described as applied to the production of vegetable oils, e.g., from sunflower seed, castor beans, cotton seed, hemp seed and cedar nuts. The app. is shown in flow sheet and

detail drawings, and numerical results are tabulated, to show the economy and efficiency of the method
J. F. Smith

ASHRAE METALLURGICAL LITERATURE CLASSIFICATION

Reconstruction of Krasnodar oil works. A. Skripin,
I. Mironov and A. Orashin. *Metalobnoe Zhit'ye* 11,
435-42(1936).—Construction and operation details of
refining and reworking of vegetable oils are discussed.
Chas. Blane

29

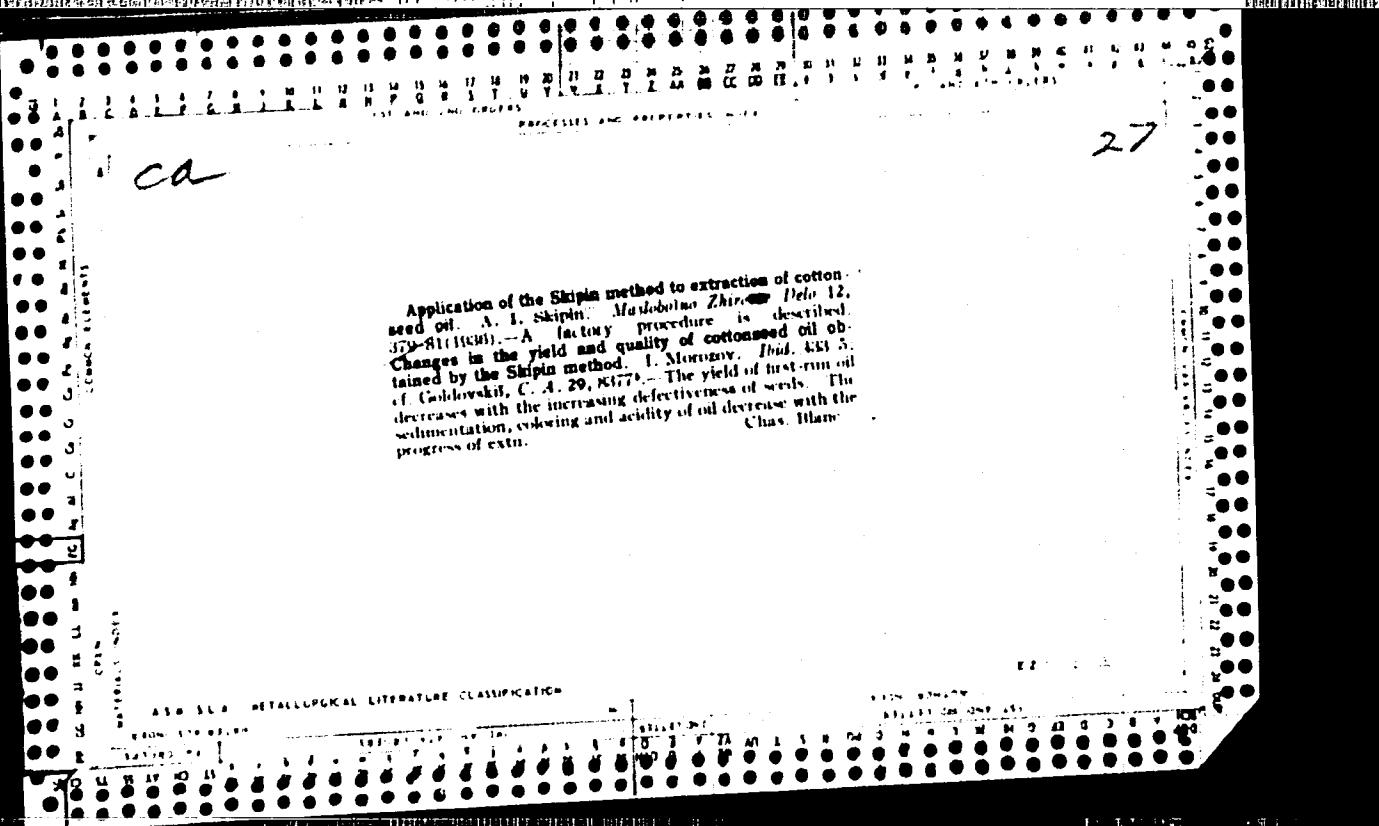
ASSISTANT METALLURGICAL LITERATURE CLASSIFICATION

CH

27

The use of Skripin method in the Kropotkin oil-extraction plant. A. Skripin and V. Tull'zen. *Mashchino Zavod* Ddo 12, 223-7 (1930). Three different methods of oil extraction are compared from technical and economical viewpoints.

Chas. Blatt



Production of linseed oil by the Skripin method. A. I. Skripin, A. A. Grashin and A. I. Zarobyan. *Mashoboznoe Zbiranie Datu* 12, 473-4 (1930); cf. C. A. 29, 7662. —A yield of 30.8% linseed oil of lower acidity, and greater clarity and luster, resulted from a meal contg. only 25.1% hulls by roasting at 47-61° (furnace). The meal was obtained by double crushing and sifting. The hulls are mixed with the partly extd. meal for further roasting and extn.
Chas. Blanc

*Ca**27*

Sunflower-seed integument and its influence on the oil property. A. I. Skupin and G. Pavlov. *M. Tekhnika Zhitrovo Delo* 13, No. 6, 5-7 (1937). Extracts of the cellular integuments of the kernel with Et₂O and petr. ether produced 11% of a viscous, light yellow oil, m.p. 46.5-47.5°, which differs in its phys. and chem. properties from the normal sunflower oil. It contains phosphatides (0.12-0.2% N and 0.055-0.065% P₂O₅), 2% of unsaponifiable matter (contg. stearins) and no albuminous substances. It is sol. in sunflower oil at above 48°. The soln. at 25° becomes turbid with gradual pptn. of white flakes. Composition of the seed-oil phase. A. M. Goldovskii and M. I. Lishkevich. *Ibid.* 7-8. Substantially identical results were obtained in comparing the compn. of oils extd. from the seed meals and the cellular integuments of the kernels of cottonseed, sunflower and peanut. C. B.

A S S U M E - METALLURGICAL LITERATURE CLASSIFICATION

Production of pure edible sunflower oil. A. I. Skupin,
A. M. Zaslavian and A. G. Yurchikhin. *Mashinostroenie
Zhurnal Deda* 14, No. 3, 6-12; No. 6, 9-10 (1948).—
Crude forepan sunflower oil, obtained by the Skupin extrn.
method (cf. C. A. 29, 7082), contains 0.17% of suspended
cellulosic matter and 0.050% of colloid phosphatides as
compared with a total of 1.62% of sediment in the com-
mon pressed oil. The mech. impurities can be removed
by filtering at 60°. The crit. temp. (the temp. at which
the coagulation of dispersed phase begins) of forepan oil
is 21.5°. The oil is best purified by cooling it below the
crit. temp. (15-10°) and, after settling (without stirring)
for 2-3 hrs., filtering at max. 20°. The resulting product
is superior to the com. refined oil, but has a higher acid no.,
ranging between 0.5 and 1.8, depending on the quality of
seeds. It remains clear after freezing at -18° for 21 hrs.,
has agreeable taste and odor and contains 0.1 H₂O and no
soap. The oils, obtained by 2 successive pressings of the
seed pulp after the extrn. of forepan oil, are purified by
the same method with a preliminary hydration with 10
vols. of 1% NaCl, because the untreated oils at the crit.
temp. ppt. incompletely the dispersed phase. C. R.

DA

Reworking of crushed castor beans on the worm screw press. A. I. Skopin, M. Zhdan Pudikov, V. Zarubyan and I. Engel. *Mashchino Zhurnal Delo* 13, No. 1, p. 9 (1930).—Certain advantages of final expression of oil from forepan castor-bean oil meal with the aid of worm-screw press are discussed. The procedure is described and diagrams of app. are given.

Extraction of sunflower oil. A. I. Skopin. *Mashkolzino* Zhurnal Dne 16, No. 1, S-0; No. 2, 5-8 (1910). -The Skopin method of forepan roasting and rewrecking the oil meal in a endless-screw press is discussed from the tech. and economic viewpoints. As compared with the performance of English and American hydraulic presses, the combined procedure reduces the loss of oil to 2.51%, increases the yields by 0.3% and gives oil of high quality. Diagrams are appended.

Chas. Blanc

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

22

27

Refining sunflower oil. A. I. Skopin, L. V. Engel and
A. I. Zorobyan. *Mashinostroyeniye Prom.* 16, No.
5-6, 1-4 (1980). Tests show that the temp. at which the
disperse phase in sunflower-seed oil coagulates is directly
related to moisture content but has only a narrow range
(20-22°). About 91.5% of the total disperse phase is
peptized by cooling below the coagulation temp. In the
peptized oil the coagulation temp. can be raised to 25-32°
by providing optimum degree of hydration, thereby facili-
tating purification. The colloidal matter, pptsd from the
oil or recovered by centrifuging, has a high phosphatide
content and can be used as a source of lecithin. A plant
for refining sunflower-seed oil is described and illustrated.
Julian F. Smith

AMSLA RETALIA FOR LITERATURE CLASSIFICATION

EXPIRATION DATE

PHOSPHATIDE AND GLYCEROPHOSPHATIDE INDEX

Phosphatide emulsifiers. A. I. Skigin. Pisikologiya
Prom., 1944, No. 7/8, 29-30.—The use of crude phosphatide
exts. from natural sources (egg yolk, soybean, cot-
tonseed, etc.) as a component of emulsifiers is reviewed.
S. Gottlieb

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SKIPIN, A.I., kandidat tekhnicheskikh nauk; VERNOLIN, S.S., inzhener;
SHCHERBINA, K.P., inzhener

Complex purification of phosphatides with recovery of a phosphatide
concentrate. Mol. weight 1000-1200. Publ. Ja '52. (MIRA 10.9)

1. Vsesoyuznyy nauchno-tekhnicheskii iniatitut zhivotov (for Skigin).
2. Latinskii maslenkovyi fabrik (for Vernolin, Shcherbina).
(for phosphatides)

... A.I., kandidat tekhnicheskikh nauk.

Processing cottonseed in the S-4 foreman unit along with FP and EP
screw presser. Masl.-zhir.prom. 17 no.10:31-32 '52. (MLRA 10:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov.
(Oil industries--Equipment and supplies) (Cottonseed)

SKIPIN, A.I., kandidat tekhnicheskikh nauk; POLSTYANOY, V.I., inzhener.

Purifying peanut oil. Masl.-zhir.prom. 18 no.6:27-28 Je '53. (MLRA 6:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov (for Skipin).
2. Tsentral'naya nauchno-issledovatel'skaya laboratoriya Ukrglavraszhir-maslo. (Peanut oil)

SKIPIN, A.I.

SKIPIN, A.I., kand.tekhn.nauk.

Modernized MP-21 screw press. Masl.-zhir. prom. 23 no.9:1-3
'57. (MIRA 10:12)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov.
(Power presses)
(Oil industries--Equipment and supplies)

SKIPIN, A.I., kand.tekhn. nauk

Method of preparing cottonseed pomace. Masl.-zhir. prom.
24 no.1:5-8 '58. (MIRA 11:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov.
(Cottonseed oil)

SKIPIN, A.I., kand.tekhn.nauk

Continuous refining of sunflower seed oil with a sodium silicate solution. Masl.-zhir.prom. 24 no.5:15-18 '58. (MIRA 12:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhivot.

(Sunflower seed oil) (Sodium silicates)

SKIPIN, A.I., kand.tekhn.nauk; YERMOLIN, S.S., inzh.; SHCHERBINA, K.P.,
inzh.

Stabilization of phosphatides in sunflower oil, and preparation
of salai oil. "asl.-zhir.prom. 26 no.8:28-30 Ag '60.
(MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhиров (for
Skipin). 2. Labinskij maslozavod (for Yermolin, Shcherbina).

(Phosphatides)
(Sunflower seed oil)
(Oils and fats, Edible)

SKIPIN, A.I., kand.tekhn.nauk; YERMOLIN, S.S., inzh.; SHCHERBINA, K.P., inzh.

Continuous hydration of pressed sunflower seed oil. Masl.-
zhir.prom. 28 no.4:22-24 Ap '62. (MIRA 15:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov (for
Skipin). 2. Labinskiy masloboynyy zavod (for Yermolin,
Shcherbina).

(Sunflower seed oil)

SKIPIN, G.V.

Studies on physiological mechanism of so-called voluntary movements.
Zh. vyshei nerv. deliat. 1 no. 6:922-925 Nov-Dec 1951. (CIML 23:3)

1. Ivanovo.

SKIPIN, G.V.

Mechanism of generalization of conditioned reflexes; law of closed function in the higher centers of the central nervous system. Zh. vyshei nerv. deiat. 2 no. 4:501-508 Jul-Aug 1952. (CLML 23:3)

SKIPIN, G.V.

Functional condition of the higher section of the central nervous system following exposure of the brain to interrupted direct current, Leduc current. Zh. vysshei nerv. deiat. 3 no.3:229-236 May-June 1953.
(GLML 25:4)

I. Moscow.

SKIPIN, G.V. (Moscow).

Changes in the functional state of the higher sectors of the central nervous system after the passage of direct interrupted current (Leduc current) through the cerebrum. Zhur.vys.nerv.deiat. 3 no.3:329-336 My-Je '53. (MIR 6:9)
(Nervous system) (Electrotherapeutics)

SKIPIN, G.V. (Moskva)

Shifting of neural processes in the cerebral cortex during the
increase of tonus in the center of one of the unconditioned reflexes.
Zhur. vys. nerv. deiat. 4 no.2:153-158 Mr-Ap '54. (MLRA 7:10)

(CEREBRAL CORTEX, physiology,
eff. of tonus of subcortical unconditioned defensive
reflex center on shifts of neural funct.)

(REFLEX,
unconditioned, eff. of tonus of subcortical unconditioned
defensive center on shifts of cortical neural funct.)

Translation M-728, 15 Aug 55

SKIPIN, G.V.; ANTONOVA, A.A.; ASLANOVA, I.F.; VINNIK, R.L.

Physiological nature of the so-called spontaneous food movements in
dogs. Trudy Inst.vys.nerv.deiat. Ser.fiziol. 1:27-36 '55. (MLR# 9:8)

1. Iz laboratorii dvigatel'nykh uslovnykh refleksov, zaveduyushchiy
G.V.Skipin.
(CONDITIONED RESPONSE)

Skipin, G. V.

USSR/Medicine - Higher Nervous Activity

FD-2795

Card 1/1 Pub 154-16/19

Author : Skipin, G. V.; Sharov, A. S.
Title : Method for numerical registration of motor reflexes in
dogs
Periodical : Zhur. vys. nerv. deyat. 5, 288-291, Mar-Apr 1955
Abstract : Describes an electrical apparatus, developed by the authors,
for numerical registration of motor reflexes, as movements
of an extremity, in dogs. Gives schematic of apparatus.
Graphs.
Institution : Institute of Higher Nervous Activity of the Academy of
Sciences USSR
Submitted : March 7, 1955

SKIPIN, G.V.

Localization of the process of conditioned (internal) inhibition
in dogs. Zhur.vys.nerv.diat. 6 no.1:22-31 Ja-Y' 56. (MIRA 9:7)

1. Institut vysshey nervnoy dyatel'nosti Akademii nauk SSSR.
(REFLEX, CONDITIONED,
localization of internal inhib. in dogs (Rus))

SKIPIN, G.V.

Physiological mechanisms underlying the formation for conditioned defense reflexes [with summary in English]. Zhur.vys.nerv.deiat. 7 no.6:877-888 N-D '57. (MIRA 11:2)

1. Institut vysshey nervnoy deyatel'nosti Akademii nauk SSSR.
(REFLEX, CONDITIONED,
defense, form. mechanism (Bus))

EXCERPTA MEDICA Sect 2 Vol 12/2 Physiology Feb 59

705. ON THE NERVE SUPPLY TO OESOPHAGEAL MUSCLE - Skripin G. V.
Dept. of Physiol., Med. Inst., Ivanovo - FIZIOL.ZH. 1958, 44/5 (481-484)
Illus. 4

Vagal stimulation in cats produces contraction of the upper (striated muscles) and
lower part (smooth muscles) of the oesophagus. The effect of vagal stimulation is
abolished by curare, but not by atropine. Simonson - Minneapolis, Minn.

SKIPIN, G.V.

Correlation between various forms of motor defense conditioned reflexes in animals. Zhur.vys.nerv.deiat. 9 no.3:429-435
(MIRA 12:9)
My-Je '59.

1. Institute of Higher Nervous Activity, U.S.S.R. Academy of Sciences, Moscow.
(REFLEX, CONDITIONED)

SKIPIN, G.V.

Materials for a physiological characterization of the kines-
thetic analyzor of the cerebral cortex in dogs. Trudy Inst.
vys.nerv.deiat. Ser.fiziol. 4:29-30 '60. (MIRA 13:7)

1. Zaveduyushchiy Laboratoriyy dvigatel'nykh refleksov Insti-
tuta vysshey nervnoy deyatel'nosti AN SSSR.
(CONDITIONED RESPONSE) (CEREBRAL CORTEX)

SKIPIN, G.V.; SHAROV, A.S.

Current stabilizer for electrocutaneous excitations. Zhur. vys.
nerv. deiat 10 no. 4:634-636 Jl-Ag '60. (MIRA 14:2)

1. Institute of the Higher Nervous Activity, U.S.S.R. Academy
of Sciences, Moscow.
(CONDITIONED RESPONSE) (SKIN)

SKIPINA, L.V.

Effect of decortication and removal of striated bodies in pigeons
on the development of the effects of strychnine and cordiamine.
Fiziol. zhur. 46 no. 4:495-500 Ap '60. (MIRA 13:10)

1. From the Pharmacology Chair of Medical Institute, Chernovzy.
(NIKETHAMIDE) (STRYCHNINE) (CEREBRAL CORTEX)

SKIPINA, N.G.; KRICHESKAYA, I.P.

Changes in venous pressure and the volume of the spleen during
excitation of the vagus nerve. Vest. AN Kazakh. SSR 14 no.7:108-112
J1 '58. (MIRA 11:9)

(VAGUS NERVE) (VEINS) (SPLEEN)

SKIPINA, Ye.G.

Effects from receptors of the internal organs on venous pressure.
Trudy Vses.oh-va fiziol.biokhim.i farm. 2:70-76 '54. (MIRA 8:7)

1. Kafedra normal'noy fiziologii Kazakhskogo gosudarstvennogo meditsinskogo instituta im. V.M.Molotova.

(BLOOD PRESSURE, physiology,
eff. of visceral stimulation on venous pressure)

USSR/Medicine - Neurophysiology

FD-2802

Card 1/1 17, 4/19

Author : Skipina, Ye. G

Title : Reflex activities of the receptors of the internal organs on venous pressure. Part 2: Action of the interoceptors of the spleen on venous pressure

Periodical : Byul. eksp. biol. i med. 6, 14-18, June 1955

Abstract : According to literature the baroreceptors and chemoreceptors of the spleen may produce reflex changes in arterial pressure, respiration, and the lymphstream. Author injected acetylcholin together with histamin into the splenic vein. This increased the pressure in the "perfused" organ and formed reflex changes in the venous pressure in the femoral, jugular, and portal veins. In the majority of cases an increase of venous pressure was observed, seldom a decrease. Arterial pressure was nearly always increased. 4 references, 4 USSR, 4 since 1940. graphs.

Institution : Chair of Normal Physiology (Head: A. P. Polosukhin) Kazakh Medical Institute imeni V. M. Molotov Alma-Ata

Submitted : 5 Feb 1954

USSR/Medicine - Physiology

FD-3379

Card 1/2 Pub. 17 - 3/22

Author : Skipina, Ye. G.

Title : Reflex activity of receptors of internal organs on venous pressure:
Part III, Interoceptor effect on the venous pressure of the organs
of the uropoietic system

Periodical : Byul. eksp. biol. i med. 8, 10-14, Aug 1955

Abstract : Author set out to clarify the problem of interoceptive reflexes of the secretory systems on venous pressure by experimenting on dogs. He ran three series of experiments: by tying off the renal vein, by irritating the baroreceptors of the kidney pelvis, and by irritating the baroreceptors of the bladder. Results are illustrated by graphs and author concludes that irritation of the interoceptors of kidneys, kidney pelvis, and bladder lead to changes of arterial pressure and respiration as well as to increased reflex variations of venous pressure in the femoral, portal and jugular veins. When the renal veins are sutured and pressure in the kidney pelvis increases, the venous pressure also increases while simultaneously the arterial pressure decreases. An increase of pressure in the bladder in the majority of cases increased both venous and arterial pressure. 2 references, USSR, post- 1940. Graphs

Card 2/2

FD-3379

Institution : Chair of Normal Physiology (Head: Prof. A. P. Polosukhin)
Kazakh Medical Institute imeni V. M. Molotov, Alma-Ata

Submitted : 5 Feb 1954

KRICHENVSKAYA, I.P.; SKIPINA, Ye.G.

Relation of venous pressure to the storage of blood in the spleen.
Fiziol.zhur. 42 no.10:861-867 O '56. (MIR 9:12)

1. Kafedra normal'noy fiziologii Kazakhskogo Gosudarstvennogo
meditsinskogo instituta, g.Alma-Ata.

(SPLIEN blood supply

relation of storage of blood in spleen to venous pressure
in animals (Rus))

(BLOOD PRESSURE, physiology,

eff. of splenic blood storage on venous pressure in
animals (Rus))

KRICHEVSKAYA, I.P.; SKIPINA, Ye.G.

Reflexes from the sinocarotid zone on venous pressure and blood deposition in the spleen. Izv. AN Kazakh. SSR. Ser. med. i fiziolog. no.1:95-99 '61. (MIRA 15:4)
(CAROTID SINUS) (BLOOD PRESSURE) (SPLEEN)

SKIBINA, Ye.G.

Venomotor center. Irv. pN Kazakh. SSR. Ser. med. nauk '61 no.2
3-16 '64. (MIRA 17:7)

SHIBA, Ye.O.

Experimental analysis of the photogramspheric curve. Izv. AN
KazSSR, Ser. fiz. mat. nauk 11 no. 3:3-15 '64 (MIRA 18:1)

SKIPINA, Ye.G.

Changes in the venous pressure and tonus due to the stimulation
of the carotid sinus. Vest. AN Kazakh. SSR 20 no.7:58-64 Jl '64.
(MIRA 17:11)

SKIPINA, Ye.G.

Changes in venous pressure and venous tonus following pain
stimulation. Biul.eksp.biol.i med. 58 no.10:15-18 O '64.
(MIRA 18:12)

1. Kafedra normal'noy fiziologii (zav. - akademik AN Kazakhskoy
SSR A.P.Polosukhin) Alma-Atinskogo meditsinskogo instituta. Sub-
mitted May 1, 1963.

1. GOLENIN, N. ENG.; SKIDITIS, E.
2. USSR (600)
4. Meat Industry
7. Improving production technology. Mias. Ind. SSSR 23 no. 5 1952.
9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

SUMMARY: CZECHOSLOVAKIA.

"Nutritional value of the Czechoslovak flour."

PRAMY, Prague, Czechoslovakia. Vol. 6, no. 10, 1955.

Monthly list of East European publications (EEL), DC, Vol. 6, No. 6, Jun 59, Unclassified

SKIPOR, A.A., inzh.; MURAV'YEV, V.A., inzh.; SHCHELOKOV, Ya.M., inzh.

Experience in the conversion of boilers from operation on pul-
verized fuel to natural gas. Energetik 12 no.11:11-13 N '64
(MIRA 18:2)

SKIPSKIY, A. G.

231T74

USSR/Meteorology - Barometer Accuracy Sep 52

"The Effect of Acceleration of Gravity on Mercury Barometer Readings," A. G. Skipskiy, Minsk, Main Admin of Hydrometeorol Sv of Belorussian SSR

"Meteorol i Gidrol" No 9, pp 47, 48

Skipskiy states that a variation of gravity does not affect barometer readings, because air and mercury vary their mass simultaneously. Hence, he states, the graduation of the mercury column should be calibrated in a different way to take into account the variation of gravity. Suggests that variation of gravity may produce a tornado unnoticed on the normal-scale barometer.

231T74

SKIPSKIY, D.

A plant renders technical assistance to a collective farm.
NTO 3 no.4:20-21 Ap '61. (MRA 14:3)

1. Chlen soveta Nauchno-tekhnicheskogo obshchestva zavoda "Bol'shevik", g. Leningrad.
(Leningrad Province—Collective farms)

AFENDUL'YEV, A.A., kand.tekhn.nauk; SKIPSKIY, P.S., kand.tekhn.nauk

Calculating unilaterally connected beams on elastic foundations.
Trudy G ISI no.25:72-81 '56. (MIRA 11:5)
(Girders)

UGODCHIKOV, A.G.; SKIPOVSKY, P.S.

Calculating polygonal pipes for internal pressure. Trudy GISK no.44
128-139 '63. (MIRA 17-11)

SOV/124-58-7-8115

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 115 (USSR)

AUTHORS: Afendul'yev, A. A., Skipskiy, P. S.

TITLE: Use of the Method of Forces in the Calculation of Beams Resting on
an Attached Elastic Support (Primeneniye metoda sil pri raschete
balok na svyaznom uprugom osnovanii)

PERIODICAL: Tr. Gor'kovsk. inzh.-stroit. in-ta, 1956, Nr 25, pp 82-102

ABSTRACT: A continuous connection between a beam and its elastic support
is replaced by connections at a finite number of points. For the cal-
culations a variant of the method of forces is proposed in which, in
place of the redundant unknowns, the forces exerted at all the con-
nections---excepting at any two adjacent ones---are used. It is
the author's opinion that this method of calculation is more conven-
ient in practice, since it involves fewer mathematical operations
than do the methods now in use. Two numerical examples are
offered.

P. I. Klubin

Card 1/1

1. Beams--Mathematical analysis
2. Structures--Applications
3. Mathematics--Applications

SKIPSKIY, P.S., dots., kand. tekhn.nauk; SIMAKOV, I.M., inzh.;
DIVAKOVA, Ye.K., assisten kand. tekhn. nauk; RUBIN,
M.G., assistent; VARLAMOVA, V.A., assistent

[Laboratory work on the strength of materials] Laboratornye
raboty po soprotivleniu materialov. Gor'kii, 1962. 100 p.

[Log of laboratory work on the strength of materials]
Zhurnal laboratornykh rabot po soprotivleniu materialov.
Gor'kii, 1962. 33 p. (MIRA 16:5)

1. Gorki. Gor'kovskiy inzhenerno-stroitel'nyy institut. Ka-
fedra stroitel'noy mekhaniki.
(Strength of materials)

Magnesium borate an effective means for increasing crops.

P. 17. (ZĀDĪJU LATVIJAS SĀKUMĀKĀ) (Riga, Latvia) Vol. 10, No. 1, Jan. 1958

SU: Monthly Index of East European Accession (EPAI) LC Vol. 7, No. 5, 1958

GOLUBEV, D.B.; SKIR, S.Ya.

Differential diagnosis of Botkin's disease with the aid of laboratory methods. Sov. med. 25 no.5:41-46 My '61. (MIRA 14:6)

1. Iz Petropavlovskoy gorodskoy bol'nitsy (glavnnyy vrach V.Gerasimova),
Petropavlovsk-Kamchatskiy.
(HEPATITIS, INFECTIOUS)

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001551010016-1

possible to determine if the information is reliable based
on the source of the original document and the date it was written.
Date: [Redacted] (7/16/98) (MSP: jw)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001551010016-1"

USSR/Zooparasitology- Acarina and Insect-Vectors of Disease *S. L. R. DA, G. I.*
Pathogens.

Abs Jour: Ref. Zhur. - Biol., No 3, 1958, 10098.

Author: Nel'zina, E. N., Slinko, L. I., Kadatskaya, K. P., Ivanov,
K. A., Yamshchikova~~KY~~, Kh. G., Poltavtsev, N. N., Skirda, G. I.

inst: -

Title: Ixodic Ticks (Parasitiformes, family Ixodidae) of Rodents
in Northwestern Caspian Coast.

Orig Pub: Sb. tr. Astrakhansk, protivoochum, st., 1955, No 1, 416-
433.

Abstract: The fauna of ixodic ticks in the district studied is com-
paratively sparse (5 species, more or less, are numerous);
individual specimens may be regarded as of Kirgiz and
European-Siberian origin. Closest biocenotic ties with
rodents are found in Ixodes laguri laguri and Thipicepha-
lus schulzei. The ~~I~~ first of these (steppe species) is con-
nected with rodents who build deep, comparatively permanent
burrows (susliks, hamsters) and is surmised to play a sub-
stantial role in the ~~xix~~ epizoology of tularemia and some
ricketssioses among susliks, hamsters and field mice. Rh.
schulzei inhabits semideserts; its principal hosts are the
small and yellow susliks.

SKIRDA, I.K., mekhanik-nastavnik

Modernizing of "Tissa"-type ships. Biul.tekh.-ekon. inform.
Tekh.upr.Min. mor.flota 7 no.11:23-26 '62. (MIRA 16:9)

1. Sakhalinskoye gosudarstvennoye morskoye parokhodstvo.
(Marine engines)

120-4-S/35

AUTHORS: Zhdanov, A.P., Berkovich, I.B., Lepekhin, R.G.,
Skirda, N.V. and Khokhlova, Z.S.

TITLE: Measurement of Small Angles in Nuclear Photoemulsions
(Izmereniye malykh uglov v yadernykh fotoemul'siyakh)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No. 4,
p. 32 (USSR).

ABSTRACT: The problem of accurate measurement of angles between the primary and secondary tracks is associated with nuclear interactions of high-energy particles with nucleons and nuclei in nuclear photoemulsions. These angles are of importance in the comparison of experimental data with theoretical predictions and in the study of multiple production of particles. The coordinate method allows such a measurement to be carried out with sufficient accuracy in different cases.

In general, when the beginning of the shower is outside the emulsion, the angular distribution can only be given relative to the axis of the shower which is taken to be coincident with the direction of motion of the primary particle. The angle θ between the i -th particle and the axis of the shower is in this case determined by the formula:

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120-4-8/35

Measurement of Small Angles in Nuclear Photoemulsions.

$$\operatorname{ctg} \theta_i = \frac{\bar{l}_i^2 + l_i^2 - (R_i - r_i)^2}{\sqrt{4l_i^2 \bar{l}_i^2 - [\bar{l}_i^2 + l_i^2 - (R_i - r_i)^2]^2}},$$

where: $\bar{l}^2 = x^2 + (\bar{y}'' - \bar{y}')^2 + (\bar{z}'' - \bar{z}' + z_0)^2$,

$$l_i^2 = x^2 + (y_i'' - y_i')^2 + (z_i'' - z_i' + z_0)^2,$$

$$R_i = \sqrt{(y_i'' - \bar{y}'')^2 + (z_i'' - \bar{z}'')^2},$$

$$r_i = \sqrt{(y_i' - \bar{y}')^2 + (z_i' - \bar{z}')^2},$$

$$\bar{y}' = \sum y_i' / n; \quad \bar{y}'' = \sum y_i'' / n;$$

$$\bar{z}' = \sum z_i' / n; \quad \bar{z}'' = \sum z_i'' / n \quad (1)$$

In the special case where the beginning of the shower lies in
Card 2/4

120-4-8/35

Measurement of Small Angles in Nuclear Photoemulsions.

the emulsion, formula (1) has the following form:

$$\operatorname{ctg} \theta_i = \frac{x^2 + \bar{y}y_i + (\bar{z} + z_o)(z_i + z_o)}{\sqrt{x^2[(y_i - \bar{y})^2 + (z_i - \bar{z})^2] + [\bar{y}(z_i + z_o) - y_i(\bar{z} + z_o)]^2}} \quad (2)$$

However, if the beginning of the shower does not lie in that layer of the emulsion in which y_i and z_i are measured, then it is necessary to take into account the difference in depth between the layers in measuring x and z_o . If the primary track is recorded, then Eq.(2) takes on a simpler form, since in that case, $\bar{y} - z = 0$. The above method of calculation of the angles θ_i from the measured co-ordinates in the plane of the section perpendicular to the plane of the emulsion gives results with an accuracy not greater than 10%. For angles less than 1° the magnitude of the error is greater

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120-4-8/35

Measurement of Small Angles in Nuclear Photoemulsions.

than 10%. If the disintegration is caused by a neutral particle, then the accuracy of the results depends on the angle of inclination of the jet to the plane of the emulsion and decreases as this angle increases. The described method may be of interest in the experimental investigation of multiple production of particles. Fig.1 legend: Calculation of θ_i . The

track OO' lies in the plane XOZ . It can be any track lying near the middle of the shower. The plane XOY is parallel to the surface of emulsion. Measurements of the co-ordinates y'_i , y''_i , z'_i , z''_i are carried out in planes perpendicular to the axis OX relative to the track OO' ; x - length of the projection of OO' , z_o - height of one end of OO' above the

other. The axis of the shower need not coincide with any of the tracks of the shower.

There is 1 figure.

ASSOCIATION: Khlopin Radiation Institute of the Ac.Sc. USSR.
(Radiyevyy institut im. V.G. Khlopina AN SSSR)

SUBMITTED: February 13, 1957.

AVAILABLE: Library of Congress
Card 4/4

20-6-11/48

AUTHORS: Zhdanov, A.P., Berkovich, I.B., Yermakova, K.I., Lepekhin,
F.G., Skirda, N.V., Khokhlova, Z. S. .

TITLE: An Interaction of High Energy Particles with Nuclei (O vzaimo-
deystvii chashtits vysokoy energii s yadrami)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 115, Nr 6, pp. 1093 - 1096 (USSR)

ABSTRACT: The present paper describes the provisional results of the analysis of seven rays with relatively great number of shower particles, which were produced in the interaction with emulsion nuclei. When inspecting one particle of the staple of Ilford G-5 emulsions (Il'ford G-5), which was irradiated for seven hours in a height of about 30 km, the authors chose that irradiation which was produced by neutral and charged particles. When analysing these cases rather reliable data were obtained only on the number of shower particles and on the angular distribution of which. The angles between the direction of motion of the primary particle and the traces of the secondary particle were measured by the coordinate-method by the aid of the microscope MBI-8. The characteristics of these distributions are compared in a table. The authors graphically represented

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20-6-11/48

An Interaction of High Energy Particles with Nuclei

the dependence $(1/N) \int_0^\theta N(\theta)d\theta$ on θ . All rays were subdivided into three types. The rays of the first type, which are characterized by a narrow cone, have a symmetrical integral distribution. The rays with a considerably larger cone and a higher number of charged particles belong to the second type. A further diagram illustrates the angular distribution for such ray in which not even within the range of small angles a symmetry can be ascertained. Each theoretical investigation of the mechanism of producing elementary particles starts from the symmetrical flying off of the developed particles in the center-of-gravity system. This corresponds to a certain symmetry of the angular distribution in the laboratory system. This symmetry is actually observed in the element. The most essential statements of the theory of Fermi-Landau can be applied to these cases. There are 4 figures, 2 tables and 8 references, 3 of which are Slavic.

Card 2/3

20-6-11/48

An Interaction of High Energy Particles with Nuclei

ASSOCIATION: Radium-Institute imeni V.G. Khlopin, AN USSR
(Radiyevyy institut im. V.G. Khlopina Akademii nauk SSSR)

PRESENTED: April 4, 1957, by A.F. Ioffe, Academician

SUBMITTED: March 26, 1957

AVAILABLE: Library of Congress

Card 3/3

SKIRDA, N. V.

MULTIFLSE PRODUCTION OF PARTICLES IN THE INTERACTION OF COSMIC RADIATION WITH
EMULSION NUCLEI

A.P. Zhdanov, N.V. Skirda

1. The study of disintergrations caused in emulsions by high energy ($E=10^{10} + 10^{12}$ ev) singly-charged particles of cosmic radiation revealed jets with abnormally high multiplicity from the point of view of Landau's hydrodynamic theory or Fermi's theory (using the tunnel model). These jets, as a rule, are accompanied by a large number of grey and black tracks ($N_{\text{trk}} > 15-20$ per jet). In addition to the "abnormal" jets, other jets were detected whose multiplicities are within the limits of the above-mentioned theories, although the number of grey and black tracks per jet in this case was also great- $N_{\text{trk}} > 15-20$.
2. In order to determine the origin of the above mentioned "anomaly", the angular distribution data of the jet shower particles for both types were studied and compared.
3. Based on analysis results, certain conclusions are drawn regarding the assumed mechanism of multiple particle production in the energy range from 10^{10} to 10^{12} ev.

The V.G. Khlopin Radius
Institute of the USSR
Academy of Sciences

Report presented at the International Cosmic Ray Conference, Moscow, 6-11, July 1959

S/058/61/000/010/012/100
A001/A101

3.14/0

AUTHORS: Zhdanov, A.P., Kuks, I.M., Skirda, N.V., Yakovlev, R.M.

TITLE: On the form of angular distribution of shower particles in jets of nucleon - nuclear origin

PERIODICAL: Referativnyy zhurnal. Fizika, no. 10, 1961, 95-96, abstract 10B493. ("Tr. Mezhdunar. konferentsii po kosmich. lucham, 1959, v. 1", Moscow, AN SSSR, 1960, 87 - 92)

TEXT: The authors present preliminary results of investigating distributions of shower particles over polar and azimuth angles. The study of 65 jets generated in interactions of high-energy ($E_0 = 10^{10} - 10^{13}$ ev) single-charged particles with nuclei of the emulsion has shown that: 1) Angular distributions of shower particles of these jets possess azimuthal symmetry; they are symmetrical relative to angle $\pi/2$ in the center-of-mass system; 2) Multiplicity of anomalous jets can be apparently easily explained from the viewpoint of a single meson production, without resorting to the concept of intranuclear cascade.

L. Dorman

✓B

[Abstracter's note: Complete translation]

Card 1/1

86887

S/056/60/039/005/001/051
B029/B079

24.690°

AUTHORS: Zhdanov, A. P., Kuks, I. M., Skirda, N. V., Yakovlev, R.M.

TITLE: Multiple Production of Particles in the Interaction
Between Nucleons of Energies $> 10^{11}$ ev and Emulsion Nuclei

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 39, No. 5(11), pp. 1177 - 1185

TEXT: The authors analyzed 80 events of meson production observed in an emulsion chamber consisting of 180 layers of НИКФИ-Р (NIKFI-R) emulsions (area, $10 \cdot 10 \text{ cm}^2$; thickness, 400μ). This chamber was irradiated for 9 hours at an altitude of 24 km. 120 nuclear interactions with more than five relativistic particles were found. In each of these stars, the number of thin (N_s), gray (N_g), and black (N_h) tracks was counted, and by means of a goniometer the angle $\theta_{1/2}$ was estimated, which included half the amount of relativistic particles. The grains in the tracks were counted by means of microscopes of the types МБИ-8 (MBI-8), ✓

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S/056/60/039/005/001/051
B029/B079

Multiple Production of Particles in the
Interaction Between Nucleons of Energies

$> 10^{11}$ ev and Emulsion Nuclei

MBI-8M (MBI-8M), and Kyk 4005 (Kuk 4005). The number l of nucleons of the target nucleus, which were involved in meson production, was calculated from the formulas $N_s = (21)^{1/4}(1 + 1)\gamma_c^{1/2}$ and $\gamma_c = [1 - (v_c/c)^2]^{-1/2}$ which are valid in Landau's hydrodynamic theory; v_c denotes the velocity of the center-of-mass system of the primary nucleon and of the nucleons of the nucleus. The correlation coefficient is $r = -0.33 \pm 0.18$. These results may be explained as follows: At energies of $10^{11} \pm 10^{12}$ ev, the factor γ_c is small, and considerable part of the energy of the primary nucleon may be transferred to the nucleus which is located behind the cylindrical tube. When the energy of the primary nucleon is increased, two processes will compete in meson production: The average multiplicity per nucleon increases, and the number of excited nucleons of the target nucleus decreases. For energies of up to 10^{12} ev the second effect is stronger. The anisotropy in the angular distribution of the shower

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Multiple Production of Particles in the
Interaction Between Nucleons of Energies
 $>10^{11}$ ev and Emulsion Nuclei

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particles may be described by $\alpha_i = \log \tan \theta_i$. For constant energies of the primary particle, the anisotropy of nucleon-nucleon showers and showers caused by central collisions of a primary nucleon with a heavy nucleus differ largely. D. S. Chernavskiy (Ref.7) has given a hypothesis concerning the existence of a special type of inhomogeneities in nucleon-nucleon collisions. The present paper leads to the following conclusions: 1) When studying interactions of high-energy nucleons (up to 10^{12} ev) with heavy nuclei, one must take into account the expansions of the nuclear matter tube when striking this matter out of the nucleus. 2) The anisotropy in the angular distribution of nucleon-nuclear showers does not decrease with increasing number of excited nucleons. This holds, at least, for energies of up to $5 \cdot 10^{12}$ ev. 3) In this energy range, the relative probability of accompanying showers as predicted by Chernavskiy does not exceed 0.04. The "accompanying tube" must not be investigated independently of the principal one. 4) The angular distributions of relativistic particles in the showers are homogeneous and can be

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Multiple Production of Particles in the
Interaction Between Nucleons of Energies
 $> 10^{11}$ ev and Emulsion Nuclei

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B029/B079

exactly described by Gauss functions in the variables $\omega = \log \tan \theta$.
The authors thank A. A. Blyudzin, D. M. Samoylovich, A. N. Charakhch'yan,
V. P. Grigor'yev, Ye. L. Feynberg, and G. A. Milekhin for assistance
and discussions. There are 8 references: 5 Soviet, 1 Dutch, and
1 Italian.

ASSOCIATION: Radiyevyy institut Akademii nauk SSSR (Radium Institute
of the Academy of Sciences USSR)

SUBMITTED: April 6, 1960

Card 4/4

L 4213-66 EWT(m) DIAAP
ACCESSION NR: AP5023979

UR/0077/65/010/005/0330/0343
539.1.073.7

AUTHOR: Zhdanov, A.P.; Skirda, N.V.

TITLE: Stopping power of nuclear track emulsions produced in the USSR

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v.10, no.3,
1965, 330 - 343

TOPIC TAGS: emulsion, nuclear track emulsion, photoemulsion, nuclear research
emulsion, nuclear track emulsion uniformity, emulsion stopping power, simple
emulsion evaluation method, emulsion composition variance, nuclear particle range
straggling, nuclear track emulsion bibliography

ABSTRACT: This is a study of braking power or stopping power of nuclear track
emulsions. It is concerned with the uniformity of emulsion stopping power, batch-
to-batch, individually, and locally, and motivated by the present use of emulsions
as measuring devices for particle energies. The elementary emulsion stopping power
is the ratio, dE/dR , of particle energy loss, dE , over an element of range, dR ,
to the element of track of range dR , in the emulsion. The total range, R , is

$$R = \int_E^0 (dE/dR)^{-1} dE. \quad (1)$$

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L 4213-66

ACCESSION NR: AP5023979

The ionization theory of heavy particle braking process within the emulsion leads to the stopping power equation:

$$-dE/dR = 2mnz^2e^4(\ln(2m\beta^2c^2E_m'/I^2(z)(1-\beta^2) - U(\beta) - \delta(\beta))/m\beta^2.c^2, \quad (2)$$

This shows that, at given magnitudes of particle " β " and charge (ze), the stopping power depends only upon the chemical composition of the emulsion, which also determines $I(z)$, - the average ionization potential of the braking environment, the electron volume density ($n = N$), and E_m' , the maximum energy transferable from the particle to an encountered electron. $U(\beta)$ and $\delta(\beta)$ are (small) corrections for the polarization effect (the last expression) and exchange energy. Therefore, conclusions about stopping power uniformity can be made from an evaluation of chemical composition variations, in addition to the experimental evaluation of track range statistics, or independently. The report uses two variants of the first method. It is found that proportion coefficients of compounds forming the standardized NIKFI-BR emulsion have a standard deviation comparable with that of the extensively studied Ilford G-3 emulsion. A simple and adequate method of stopping power evaluation is proposed, requiring determination of only three quantities: the silver halides content, emulsion density, and emulsion relative humidity. It

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is found that several other nuclear emulsions produced in the USSR in 1961, 1962 and in 1963 (designations: NIKFI - P-EM;BK; Ya-2; T-2; T-3; D; P-9_o;P-9_{ch};PR; PR-2) - have insufficient stopping power uniformity, requiring often batch and individual emulsion calibrations. In this connection, a method for a fast determination of particle range vs energy for emulsion calibration is proposed, based upon the interpolation formula

$$E = kR^a.$$

(3)

It is shown that the determination of two values for each constant, two pairs - (k_1, a_1 and k_2, a_2), are sufficient for approximating the $R - E$ curve over a range of 7 - 900 Mev. The first pair of constants (k_1, a_1) can be obtained from range measurements of 1) monoenergetic neutrons of the $t(d,n)He_3^4$ nuclear reaction, $E_{th} = 14.4$ Mev and 2) μ - mesons due to the decay of π^+ mesons with $E = 4.12$ Mev, $\beta = .27$. The second pair determination requires irradiations by an accelerator. Original article [18]

ASSOCIATION: Radiyevyy institut im. V.G. Khlopina pri GKAE, Leningrad (Radium Institute, GKAE)

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